

## **ABSTRACT**

A helical interpolation filter is provided for a multi-slice scanner having an asymmetric detector array. For projection data generated in the symmetric region of the scanner, in which complementary data are available, complementary interpolation is performed. For projection data generated in the asymmetric region of the scanner, in which no complementary data are available, direct interpolation is performed. A blending region is defined near each boundary between the symmetric and the asymmetric regions. In the blending region, a combination of direct and complementary interpolation is performed.